ATTORNEY DOCKET No. 11594STUS01I (NORT10-00098)
U.S. SERIAL NO. 09/672,814
PATENT

AMENDMENTS TO THE CLAIMS:

Please amend the claims as follows, substituting any amended claim(s) for the corresponding pending claim(s):

(Previously Presented) A speech recognition system comprising computer memory storing:
 a first set of speaker-independent word models used to match a word in an utterance of a user

with a word model in said first set, wherein said first set of word models includes models for each

of a plurality of words;

a second set of speaker dependent word models derived from speech of a particular user and used to match a word in an utterance of said particular user, wherein said second set of word models includes models for at least some of said plurality of words; and

a program portion used to identify words in utterances of said particular user by attempting to match portions of an audio signal with:

word models among said first set; and

word models among said second set,

wherein said identified words in the utterances of said particular user include user-selected words for invoking commands.

2. (Previously Presented) A method of operating a speech recognition system comprising: storing a first set of speaker-independent word models used to match a word in an utterance of any user with a word model in said first set, said first set of word models including models for each of a plurality of words;

storing a second set of speaker dependent word models derived from speech of a particular user, said second set of word models including models for at least some of said plurality of words and at least one model of said second set chosen by said particular user to initiate performance of at least one of a plurality of system commands;

recognizing words in utterances of said particular user by attempting to match portions of an audio signal with:

word models among said first set; and

word models among said second set; and

performing at least one system command in response to a recognized word within said utterances of said particular user.

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3. (Previously Presented/Allowed) A method of operating a speech recognition system comprising:

storing a first set of speaker-independent word models used to match a word in an utterance of any user with a word model in said first set;

storing a second set of speaker dependent word models derived from speech of a particular user by:

inviting said particular user upon first use of said speech recognition system to speak training words for deriving said second set;

deriving said second set from said training words; and storing said second set;

associating at least one stored word model with a command token also associated with a default command word model; and

recognizing words in utterances of said particular user by attempting to match portions of an audio signal with:

word models among said first set; and word models among said second set.

4. (Original) The method according to claim 2 further comprising:

inviting said particular user to speak training utterances of a word upon a predetermined number of failures to recognize said word using said first set of word models;

deriving a word model from said training utterances; and storing said word model from said training utterances, in said second set.

5. (Previously Presented) A method of operating a speech recognition system comprising: storing a first set of speaker-independent word models used to match a word in an utterance of any user with a word model in said first set;

storing a second set of speaker dependent word models derived from speech of a particular user by:

determining a likelihood of recognizing a spoken word using said first set; deriving a word model from a spoken word marginally recognized using said first set; storing said word model in said second set; and

recognizing words in utterances of said particular user by attempting to match portions of an audio signal with:

word models among said first set; and word models among said second set.

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6. (Previously Presented/Allowed) A method of enhancing speech recognition comprising:

providing a set of user-independent word models derived from utterances of a plurality of speakers, said set of user-independent word models including models for each of a plurality of words;

providing a set of user-dependent word models for ones of a plurality of users each derived from utterances of one of said users, said set of user-dependent word models including models for at least some of said plurality of words;

matching an utterance from one of said users to one of said user-independent word models; matching an other utterance from said one of said users to one of said user-dependent word models; and

responsive to matching either said utterance to said one of said user-independent word models or said other utterance to said one of said user-dependent word models, initiating a command associated with both said one of said user-independent word models and said one of said user-dependent word models.

7. (Previously Presented/Allowed) A method of enhancing speech recognition comprising: providing a set of user-independent word models derived from utterances of a plurality of speakers, at least one user-independent word model representing a first word and associated with a command token;

providing a set of user-dependent word models for ones of a plurality of users each derived from utterances of one of said users, at least one user-dependent word model representing a second word different than the first word and associated with said command token, said user-dependent word models each derived by:

inviting a new user to speak training words for deriving a set of user-dependent word models;

deriving said set of user-dependent models from said training words;

storing said set of user-dependent word models; and

associating a user-dependent word model with a command token designated by said one of said users;

matching an utterance from one of said users to one of said user-independent word models; and

matching an other utterance from said one of said users to one of said user-dependent word models.

8. (Previously Presented/Allowed) The method according to claim 7 further comprising: inviting said new user to speak training utterances of a word upon a predetermined number of failures to identify said word among said user-independent word models when no model for said word is present in said user-dependent models;

deriving a word model from said training utterances; and storing the derived word model in said set of user-dependent word models.

- 9. (Original/Allowed) The method according to claim 8 wherein said user-dependent word models are stored in a separate memory location from said user-independent word models.
- 10. (Previously Presented) A method of operating a speech recognition system, comprising: storing a first set of recognition models for recognizing speech independent of an identity of a user, said first set of recognition models for recognizing a plurality of system commands;

storing a second set of recognition models for recognizing speech of a particular user, at least one model of said second set for initiating performance of at least one of said plurality of system commands, so that at least one of said system commands may be performed in response to a recognized user chosen utterance.

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- 11. (Original) The method of claim 10, wherein a single utterance corresponding to one of said second set of models may correspond to a plurality of sequentially performed system commands.
- 12. (Original) The method of claim 10, further comprising:

comparing each model of said second set of recognition models to each of said first set of recognition models and other ones of said second set, to ensure that speech recognized using each model in said second set will not be mistakenly recognized using any model in said first set, or other models in said second set, prior to storing said each model.

13. (Previously Presented) A voice messaging system, comprising a speech recognition system for controlling operation of said voice messaging system, said speech recognition system comprising: a memory storing:

a first set of word models for recognizing speech independent of an identity of a user, said first set of word models for recognizing a plurality of system commands controlling operation of said voice messaging system; and

a second set of models for recognizing speech of a particular user, at least one model of said second set for initiating performance of at least one of said plurality of system commands, so that at least one of said system commands may be performed in response to a recognized user chosen word.

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14. (Previously Presented) The voice messaging system of claim 13, wherein said memory further contains computer executable instructions adapting said system to record utterances by said particular user to form said second set, and to collect indicators of system commands to be associated with each model in said second set.

15. (Original) The voice messaging system of claim 14, wherein said memory further stores

computer executable instructions adapting said system to prompt a user to record utterances in place

of system commands.

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16. (Original) The voice messaging system of claim 14, wherein said memory further contains computer executable instructions adapting said system to ensure that speech recognized with each model in said second set will not likely be recognized with any model in said first set or other models in said second set, prior to storing said each model in said second set.

17. (Original) The voice messaging system of claim 16, wherein at least one model in said second set initiates performance of more than one or said plurality of system commands.

18. (Previously Presented) A computer readable medium, storing:

a first set of recognition models for recognizing speech independent of an identity of a user at a speech recognition system, at least some of said models in said first set for recognizing a plurality of system commands; and

computer executable instructions, that when executed at said speech recognition system, adapt said speech recognition system to form and store a second set of models, for recognizing speech of a particular user, with at least one model of said second set for initiating performance of at least one of said plurality of system commands, so that at least one of said system commands may be performed in response to a recognized word chosen by said particular user.

- 19. (Original) The computer readable medium of claim 18, further storing computer executable instructions adapting said system to record utterances by said particular user to form said second set of models, and to associate at least one system command with each model in said second set of models.
- 20. (Original) The computer readable medium of claim 19, further storing computer executable instructions adapting said system to prompt a user to record utterances in place of system commands.

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21. (Previously Presented) The computer readable medium of claim 18, further storing computer executable instructions adapting said system to ensure that speech recognized using each model of said second set will not be mistakenly recognized with any one model in said first set of recognition models, or other models in said second set of models, prior to storing said each of said models in said second set.